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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/971,765	10/09/2001	Franciscus J. Groen	1797.0510000	2480

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WASHINGTON, DC 20005

EXAMINER

FREJD, RUSSELL WARREN

ART UNIT	PAPER NUMBER
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2128

DATE MAILED: 03/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/971,765

Applicant(s)

GROEN ET AL.

Examiner

Russell Frejd

Art Unit

2128

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 January 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>6 and 7</u> . | 6) <input type="checkbox"/> Other: _____  |

***Examination of Application #09/971,765***

1. Claims 1-26 of application 09/971,765, filed on 9-October-2001, are presented for examination.

***Claim Rejections under 35 U.S.C. § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1-26 are rejected under 35 U.S.C. § 102(e) as being anticipated by Weinstock et al., hereinafter Weinstock, U.S. Patent no. 6,223,143.

3.1 Weinstock disclosed the invention as claimed, including a [col. 3, lines 3-32] Quantitative Risk Assessment (QRAS) computer-based software system which assesses risk at the failure mode, subsystem, and element (i.e. a group of subsystems) levels, based upon user supplied quantifications of failure modes, event sequences, system decomposition, and system operating times. The software is executed on a workstation in a WINDOWS environment, allowing access

to features and functions from either a main menu screen or top level screen options, by use of either a mouse or keyboard input.

Weinstock's system further provides and fully integrates features and functions such as building an element/ subsystem/failure mode hierarchy; creating a mission timeline; performing failure mode quantification; building and quantifying event sequence diagrams (ESDs), including multiplicities, dependencies, and redundancies; creating a fixed baseline with all lowest level simulations stored; and performing sensitivity analyses, all based upon user input.

**3.2** In regard to claim 1, Weinstock discloses the automatic generation of a fault tree from ESDs, that can be viewed as part of the analysis module [col. 32, lines 28-30], and a fault tree in which and/or logic gates regarding multiple elements or subsystems is included in assessing the risk [col. 15, lines 37-43, col. 16, lines 14-20, and Fig. 14B].

In regard to claim 2, Weinstock provides for probability analysis [col. 32, lines 25-27], and dependencies [col. 16, line 12, and section 3.1 above].

In regard to claim 3, Weinstock teaches a ranking by failure mode (i.e. initiating events)[col. 30, line 10](the forming of a list of common cause group member events);

the capability to perform Sensitivity Analysis, with features including change failure mode quantification, change ESD, etc. [col. 31, lines 43-52](selecting a number of rules to apply);

a feature for allowing the grouping of various elements and/or subsystems and/or failure modes in the hierarchy viewed as performing a specific function [col. 32, lines 20-22](defining groups based upon application of the rules); and

the determination of the risk and risk rankings by this functional grouping [col. 32, lines 23-24](introducing risks into the model).

In regard to claim 4, the limitations of claim 4 were discussed in the rejections noted above, and in section 3.1.

In regard to claims 5 and 7, Weinstock allows for the grouping of various elements and/or subsystems and/or failure modes[col. 32, lines 20-22].

In regard to claim 6, Weinstock discloses ESDs, and links them to failure modes (i.e. sequences of events)[col. 30, lines 8-11].

In regard to claim 8, see the rejection of claim 5 above, and the screens depicted in Figs. 21 and 22; and screens 5B-D showing the global design of QRAS.

In regard to claims 9, 10 and 11, see the rejection of claim 3 above, and the screen depicted in Fig. 29.

In regard to claim 12, see Fig. 6.

In regard to claim 13, see the rejections detailed in section 3.1 and claim 9 above, as well as Fig. 25 (Quantification Model Selection).

In regard to claim 14, Weinstock teaches a "Common Cause" beta factor [col. 31, line 35].

In regard to claim 15, see the user input discussion in section 3.1 above.

In regard to claims 16, 17, 19 and 25, Weinstock provides for quantification of failure modes allowing not only absolute probabilities, but conditional probabilities [col. 32, lines 25-27].

In regard to claim 18, see the rejections discussed in section 3.1 and claim 1 above.

In regard to claim 20, Weinstock provides a Monte Carlo simulation [col. 18, line 37].

In regard to claims 21-23, see the rejections discussed in section 3.1 and claim 1 above.

In regard to claim 24, see the rejections discussed in section 3.1 (user interface), claim 1 (fault tree data structure), and claim 3 (group defining mechanism and application of expansion rules).

In regard to claim 26, see the user interface discussed in section 3.1 above.

***Response Guidelines***

4. A shortened statutory period for response to this action is set to expire **3 (three) months and 0 (zero) days** from the date of this letter. Failure to respond within the period for response will cause the application to become abandoned (see MPEP 710.02, 710.02(b)).

5. **Any response to the Examiner in regard to this non-final action should be**

**directed to:** Russell Frejd, telephone number (703) 305-4839, Monday-Friday from 0630 to 1500 ET, **or** the examiner's supervisor, Kevin Teska, telephone number (703) 305-9704. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist, telephone number (703) 305-3900.

**mailed to:** Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or faxed to:** (703) 872-9306

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Date: 28-February-2004

  
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**RUSSELL FREJD  
PRIMARY EXAMINER**